October 15, 2001

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RE: AM-27-01

When considering the course of action for mercury reductions from major sources in Wisconsin, the Department of Natural Resources and Natural Resources Board must take these key points into account:

- Mercury poses a significant threat to the health of humans and wildlife
- We have known about the problem of mercury contamination of fish for over 30 years; we cannot afford to wait for mercury reductions any longer
- Other industries have spent millions reducing mercury, yet mercury emissions from coal plants remain unregulated
- Given the schedule of reductions in Congressional bills, the timeline of WI's proposed mercury rule is extremely reasonable; the timeline should be strengthened
- History shows that acting first is in WI's economic and environmental best interest
- The rule is reasonable because of its flexibility in compliance options
- The technology will be in place to meet the reduction schedule
- The trading provisions in the rule may allow electric utilities to avoid making real emissions reductions
- The lights will not go out because of this rule; there is no potential harm to electric reliability
- Reducing mercury from Wisconsin sources will have an impact on Wisconsin lakes
- Broad-based support exists to reduce mercury
- These reductions can be made at a reasonable cost
- The will exists to pay more on electric bills to reduce Wisconsin's mercury emissions
- Utilities positions and analyses cannot be assumed to be credible

Mercury and Human Health
Human Health: In the last year, two major studies have been released that illustrate the huge impact that mercury has on the health of our families. The National Academy of Sciences estimated that 60,000 children are born in the U.S. each year that may suffer from brain damage and learning disabilities because their mothers ate mercury-contaminated fish. Based solely on population, we estimate that at least 1200 children born in Wisconsin each year will suffer the same fate (assuming people in Wisconsin eat

no more fish than people in Arizona, Missouri, etc. and that fish in Wisconsin are no more contaminated than in other states—both of which are false assumptions. For this reason, the estimate for Wisconsin is very conservative.)
The Center for Disease Control estimated that 1 in 10 women of childbearing age have levels of mercury in their bodies that the Environmental Protection Agency considers dangerous.
Wildlife: Studies have linked high mercury levels to reproductive harm in loons, eagles, rainbow trout, and walleye. Many of these creatures are important cultural icons in our state.

Other Natural Resources: ALL Wisconsin lakes and rivers are on the current fish advisory. Pregnant women, nursing mothers, women of childbearing age and children under 15 have to severely limit the amount of sport fish they eat. Because mercury is highly toxic in extremely small doses, the current advisories, including the warning for the roughly one hundred "do not eat" lakes and rivers, may not be protective enough.

We Cannot Wait for Mercury Reductions—Other Industries Have Done Their Part
In 1970, the Wisconsin River was found to have widespread mercury contamination of fish along a forty-mile stretch of water. Thirty years later, we know that approximately forty percent of mercury air pollution emitted in Wisconsin comes from coal-fired power plants and that no regulation prevents the deposition of mercury into surface waters in the state. We are graced with nearly fifteen thousand lakes and thousands of miles of rivers; these are resources we must protect for future generations.

While Wisconsin is the first state in the Midwest to draft administrative rules to govern mercury emissions, Michigan and Ohio are only days from submitting citizen petitions calling for steep cuts in mercury pollution from coal-fired plants. We also know that the EPA will put in place a MACT standard, covering mercury, by 2004. Wisconsin must send a strong message to other states and the federal government that we are serious about addressing the largest source of mercury pollution that we have control over. Also, by acting first, we can positively influence federal mercury regulations, the result being a "Wisconsin-friendly" regulation. We can also send a strong message to resident and non-resident anglers that, while Wisconsin has a fish advisory, we are willing to take positive action to reduce mercury pollution and protect children's health.

Many other industrial sources of mercury have cleaned up their act. Mercury is no longer used to manufacture paint and batteries. These industries spent millions, if not billions, to find alternatives—some industries did so ahead of any regulation. Programs exist for the collection of mercury thermometers and other mercury-containing products. Still, over one ton of mercury is emitted from the smokestacks of coal-burning power plants.

The Timeline and Reduction Schedule is Very Reasonable
The DNR proposed rule requires utilities to reduce their emissions 90% in 15 years, which means by the year 2017 (as opposed to 2015). Federal, bipartisan bills are calling for 90% mercury reductions from power plants by 2007. At each of the reduction phases,

there is an evaluation period, giving the DNR and utilities ample opportunity to adjust the reduction schedule if needed.
The timeline for making 90% reductions should be amended to 2010. The flexibility in compliance options makes this reasonable.

The Rule Allows Utilities Flexibility in Compliance
According to the proposed DNR rule, utilities can achieve mercury reductions in many different ways:

1) Technology
2) Fuel Switching
3) Trading

Technology: Although the technologies are not specifically designed to capture mercury, there are many commercially available add-on control technologies to reduce mercury emissions from coal plants. These include scrubbers, fabric filters and other devices designed to reduce other pollutants . Because there are many different power plant configurations that burn varying types of coal, the Department of Energy has sponsored research and development of 6 control technologies to remove mercury. The goal of all technologies is to reduce mercury emissions 90% by 2010 and reduce the cost of the pollution controls by 40-75%. One of the technology companies, ADA Environmental Solutions, recently indicated that they are working towards a mercury control solution that will accomplish 90% mercury reductions by 2007 (in preparation for potential federal mercury regulation).

Utilities in Wisconsin have claimed that there is no commercially available control technology to reduce mercury. Listed below are first-hand statements from technology vendors and others pertaining to control technologies, potential costs, and the need for regulatory drivers like the proposed mercury rule:

"Producers of activated carbon need to have a definitive regulation and specific time table to justify investing several hundred million dollars for new kilns and furnaces." --ADA Environmental Solutions

"The capital and operating costs for the liquid additive-based mercury emission control technology are anticipated to be significantly less than the alternative activated carbon technology [which the proposed DNR rule is based upon]."
--Babcock&Wilcox / McDermott Technology

Also, according to Bob Wayland from EPA, who is in charge of the MACT standard coordination, some utilities are already reducing mercury emissions by 35% without even trying. An EPA employee who chose not to be identified asserted that 5-6% of utilities are currently getting 90% or more in mercury reductions.

Fuel Switching: Wisconsin gets a vast majority of its electricity from coal-burning power plants, most of them being over 20 years old. Many new power plants are being proposed, with a majority still being coal plants. The opportunity exists to diversify our

energy supply, with natural gas being a cleaner choice. Wisconsin Electric Power Company, as part of its "Power the Future" proposal, plans to get mercury reductions by closing down an old coal plant and replacing it with a larger gas plant (in Port Washington). The political will is there for building gas plants—in a recent poll by the Wisconsin Policy Research Institute, Inc. 80% of the residents polled who favor building new power plants (68% favored new plants) favored gas plants, as opposed to 39% who favor new coal plants.

Trading: Pollution trading, in the case of utilities, occurs when a company pays for the reduction of mercury elsewhere (e.g. at an industry or through a thermometer collection program) in order to avoid actual emission reduction from their own facilities. As discussed earlier, many other industries (like those that produce batteries and paint) have phased out the use of mercury in their products. Under the DNR's guidelines, utilities are allowed to get 25% of total mercury reductions through small source pollution reduction credits. Although DNR staff has anecdotally mentioned that ten pounds of mercury collected (from a thermometer take-back program, for example) would equal one pound of smokestack emissions, comparing mercury-containing products to direct emissions into the air is similar to comparing apples and oranges. The potential for smokestack emissions to reach surface waters is remarkably higher.

While we strongly support the removal of mercury containing products from the home and the marketplace, we are concerned that the small source trading provision may have a negative effect on the overall reduction of utility mercury pollution. If this aspect of the rule remains unchanged, it further illustrates the ease with which utilities can comply with the rule.

As with the small source provision, the rule allows utilities to get 25% of their total reductions by trading with other large sources. The most obvious benefit of this aspect of the rule is the elimination of mercury emissions from the Vulcan plant in Port Edwards. However, this provides both another opportunity to pass the mercury reduction buck to other industries and exemplifies the flexibility of compliance options. Adding the small and large source trading provisions, it is likely that utilities may have to achieve much less than 90% reductions from their coal-burning power plants. A scenario such as this is unacceptable; coal plants remain the largest source of mercury and the only source that is completely unregulated. Because of this, trading needs to be severely restricted or not allowed.

Cost

Department and utility cost estimates are likely to be proven high and outrageous respectively. Utility cost estimates (with the exception of the carbon injection example provided by WE in the TAG) are apparently based on fuel switching at numerous plants. The draft rules, as you are obviously aware, are premised on using activated carbon injection (ACI) control technology on existing coal plants, not fuel switching. This difference, in the staff's premise and utility's response explains why the utility cost estimates are several times higher than that of the Department, EPA, EPRI, or pretty much any other half way credible source on the planet. Ironically, the only plans for fuel switching have been advanced by Wisconsin Energy Co. in the case of the their Port Washington plant. The utility and WMC claims that fuel switching would be required

are apparently based on an expectation that all research and development into mercury control technology will come to a screeching halt tomorrow.

However, we also believe that the staff cost estimates are high. While a billion dollars sounds like a lot of money, when spread out over all ratepayers and several years the monthly increase per customer is quite reasonable. For example, the Public Service Commission authorized nearly a billion dollars worth of utility investment for NOx SIP Call compliance prior to the federal court decision excluding Wisconsin from that regulation. While WE's costs were to be nearly half of the billion dollars, the company estimated that recovering the costs would result in a monthly surcharge of $1.23 per month if it were collected over 5 years. The kWh cost estimate for WE was .2 cents; comparable to staff's 90% cost estimate level of .26 cents. Yet, staff has estimated an annual household cost of $31 per year. If these costs were recovered over the life of the control equipment, they should be well below the $1.23 per month over 5 years.

History tells us that the cost of compliance with air pollution regulations tends to be a fraction, in practice, of what was predicted at the time the regulation was created. Certainly the sulfur dioxide credit market bares this out for the acid rain regulations in the Clean Air Act. Similar cuts in cost estimates by EPA, DOA and EPRI are likely to occur for mercury control when additional sorbents are tested. Preliminary DOE tests, for example, found that zeolite sorbents remove up to 4 times the amount of mercury per gram of sorbent as activated carbon. The zeolite would have an added cost advantage relative to carbon because it would not change the carbon content of the ash.

We believe that most Wisconsin citizens would gladly pay a dollar or two more for their electricity if they knew mercury emissions would be reduced significantly. While not a scientific survey, we have interviewed fisherman from around the state, both on the water and at boat landings, and we have yet to encounter a single one who did not express a willingness to pay an extra dollar or two for their electric bill to reduce mercury in the environment. The best evidence that this is the case is the utility's own green pricing programs where many customers have shown an actual willingness to pay much more than we are contemplating here with a much smaller impact (improvement) to the environment.
In 1999, the EPA estimated that the cost of reducing mercury pollution by 70% for the whole nation would be between 1.7-1.9 billion dollars/year, which is 60% less than their cost estimate in 1998 and a strong indication that any cost estimates we see today will likely continue to decrease.

The cost of not acting may be many times higher than the cost of reducing mercury. Referring back to the National Academy of Science, we strongly believe that well over 1000 children are born in Wisconsin every year who may suffer from brain damage and learning disabilities because their mothers ate mercury contaminated fish. The cumulative health care costs of treating those children are virtually unimaginable. Likewise, the cost of special education needs for thousands and thousands of children who were exposed to mercury before birth must be considered in the decision to reduce mercury pollution.

Local Reductions Will Benefit Wisconsin

While many from the utility industry have argued otherwise, Wisconsin sources, especially coal-fired power plants that are the largest source category, contribute significantly to mercury deposition in Wisconsin.

The Wisconsin DNR, in their Assessment of the Need for an Environmental Impact Study, declared that "Reducing mercury from major electric utilities in the state will over time, reduce mercury to the state's environment." The U.S. Geological Survey stated that "Modeled scenarios predict that if emissions could be reduced by 5 percent, it would take 8 years before any change in fish concentration would be observed, and the decrease would be small." The WI DNR proposal includes a 90% reduction in mercury emissions, which could lead to a significant decrease of mercury in fish in a relatively short period of time.

Using other regions as an example, scientific literature on mercury deposition indicates that local and regional sources contribute roughly 30-45% of the deposited mercury in regions such as Florida and the Northeast (Environ. Sci. Technol. (2001) 35:863; Sci. Total Environ. (2000) 256:39). Although scientists have not determined the exact percentage of Wisconsin mercury that comes from in-state sources, scientists researching a similar question in New England have concluded that approximately seventy percent of the mercury in the New England comes from sources within that relatively small region. (Source: Northeast Governors/Eastern Canadian Premiers Mercury Action Plan, 1998). The Wisconsin DNR has estimated that up to 50% of mercury falling into Wisconsin's surface waters originated in the state.

Through models, scientists estimate that the amount of mercury falling east of the Mississippi is ten times higher than the deposition falling west of the Mississippi. (Source: Bullock, O.R., Jr., Benjey, W.G., Keating, M.H., 1997, "Modeling of regional scale atmospheric mercury transport and deposition using RELMAP," *In* Baker, J.E., Ed., *Atmospheric Deposition of Contaminants to the Great Lakes and Coastal Waters*, SETAC Press, Pensacola, FL, pp. 323-347). Global sources cannot be responsible for this difference; the global pool would fall fairly evenly over the eastern and western halves of the nation. Local and regional sources (and to a lesser extent precipitation differences) must be responsible for these differences in mercury precipitation.

Any attempt by utilities to place blame for our mercury pollution on China and Russia should be viewed as nothing more than scapegoating mercury sources over which we have no control and in turn, avoiding a civic and corporate responsibility to reduce in-state mercury pollution.

Additionally, we can send a strong message to resident anglers and tourists from other states that Wisconsin is a leader in protecting our natural resources and the people who enjoy them.

This Rule Will Not Harm Electric Reliability
While many utilities have argued that this rule will harm electric reliability, that statement is simply untrue. At each of the reductions phases there is an evaluation in which reliability is taken into account. The rule contains a variance provision that states that the DNR, in consultation with the Public Service Commission, may grant a variance to a utility based on a few reasons, one being potential harm to electric reliability. The key to electric reliability is a diverse energy supply, which Wisconsin does not currently have. This rule will provide incentives for utilities to retire some the most inefficient power plants and replace them with more efficient plants that may burn either natural gas or coal. New plants are being proposed for Southeast Wisconsin that utilities claim will capture 80-90% of mercury while still utilizing coal for a fuel. As was the case for other retrofits, any plants that required new technologies would be fitted with improvements during non-peak demand times such as spring and fall.

There is Strong Support from Diverse Groups to Reduce Mercury
Looking back to the (amended) citizen petition, which requested a 90% reduction in mercury pollution by 2010, it is easy to see the broad-based support for this issue. A number of large sport fishing organizations, representing thousands of anglers, were co-petitioners as were state legislators, a resort owner, a fishing guide, a pediatrician, and other concerned citizens. Many of these people testified in strong support of 90% mercury reductions by 2010.

Utility and Trade Group Credibility is Questionable
In relation to many aspects of the mercury debate, utility and trade group positions have been in contrast to the positions of many within the scientific community, including the Wisconsin DNR. By examining testimony from each of the public hearings, there are many misleading statements made by utilities regarding issues such as mercury's health effects, the transport of mercury, the cost of reductions and the threats to electric reliability. We are pleased that one of the ground rules of the Citizens Advisory Committee is "to speak the truth."

Thank you for reviewing the above information. We commend the DNR for the leadership they have taken in reducing mercury pollution. Wisconsin's Environmental Decade reserves the right to submit comments to the public record as new, relevant information becomes available.

Respectfully Submitted,

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